SPECIFICATION AMENDMENTS

Replace the paragraph beginning at page 3, line 19 with:

~~Fig. 1a - 1g~~ Figs. 1(a)-1(g) are cross-sectional views showing a wiring forming process according to the present invention.

Replace the paragraph beginning at page 3, line 21 with:

~~Fig. 2a - 2d~~ Figs. 2(a)-2(d) are cross-sectional views showing a forming process of the insulating film according to the present invention.

Replace the paragraph beginning at page 3, line 24 with:

Fig. 3~~a - 3d are~~ is a graph of infrared ~~spectroscopy~~ spectra of the insulating film according to the present invention.

Replace the paragraph beginning at page 3, line 26 with:

Fig. 4~~a - 4d are~~ is a graph of infrared ~~spectroscopy~~ spectra of the insulating film according to the present invention.

Replace the paragraph beginning at page 4, line 4 with:

Fig. 8~~a - 8d are~~ is a graph of infrared ~~spectroscopy~~ spectra of the conventional insulating film.

Replace the paragraph beginning at page 4, line 13 with:

Figs. ~~1A~~ 1(a) to ~~1G~~ 1(g) are cross-sectional views showing a wiring forming process using a damascene technique. First of all, as shown in Fig. ~~1A~~ 1(a), a first insulating film 3 is formed on a silicon substrate 2, thus preparing a semiconductor base material 1. For example, a silicon carbide (SiC) film or a silicon nitride (SiN) film may be used as the first insulating film 3. These insulating films are formed on the silicon substrate ~~using a~~ by plasma CVD (Chemical Vapor Deposition) ~~technique~~.

Replace the paragraph beginning at page 4, line 26 with:

How to form the second insulating film will be described with reference to Figs. ~~2A~~ 2(a) to ~~2D~~ 2(d). It should be noted that components in these figures which are the same as those in ~~Fig.~~ Figs. 1(a)-1(g) are denoted by like numerals.

Replace the paragraph beginning at page 4, line 30 with:

First of all, an insulating film 4 is formed on the first insulating film 3, as shown in Fig. ~~2A~~ 2(a). The insulating film 4 is predominantly composed of organic siloxane and contains an organic component which has no chemical bond to the organic siloxane.

Replace the paragraph beginning at page 7, line 3 with:

Then, ~~plasma treatment is performed on~~ the surface of the insulating film 4 is treated with a plasma, as shown in Fig. ~~2B~~ 2(b).

Replace the paragraph beginning at page 7, line 25 with:

When the plasma treatment is performed using oxygen ~~gas~~ or a gas mixture containing oxygen as a constituent element, oxygen (atoms) within the plasma is substituted for the carbon (atoms) of methyl groups in the organic siloxane constituting the insulating film. This forms a modifying layer 5 containing many Si—O bonds on the surface of the insulating film 4, as shown in Fig. ~~2C~~ 2(c). Furthermore, the plasma treatment decomposes the organic component contained in the insulating film. The decomposed organic component evaporates and thereby leaves the insulating film, forming vacancies 6. It should be noted that if the insulating film 4 is made of an organic siloxane containing an organic group which can be decomposed and thereby removed, the organic group portion of the organic siloxane decomposes through the plasma treatment and leaves the siloxane structure, also forming vacancies 6.

Replace the paragraph beginning at page 8, line 17 with:

According to the present invention, after completing the plasma treatment, the insulating film may be heat treated at a temperature between 250°C and 450°C. This further decomposes and vaporizes the remaining organic component within the insulating film 4, forming a large number of vacancies 6 therein, as shown in Fig. ~~2D~~ 2(d). When, on the other hand, the insulating film 4 is made of an organic siloxane containing an organic group which can be decomposed and thereby removed, the above heat treatment further decomposes the organic groups. It should be noted that this heat treatment need not be carried out if the plasma treatment ensures sufficient void content.

Replace the paragraph beginning at page 10, line 24 with:

The above processes form the second insulating film 4 on the first insulating film 3, as shown in Fig. ~~1B~~ 1(b). The second insulating film 4 has the modifying layer 5 on the surface thereof.

Replace the paragraph beginning at page 10, line 28 with:

Then, as shown in Fig. ~~1C~~ 1(c), a third insulating film 7 is formed on the modifying layer 5. The third insulating film 7 may be a silicon oxide film and formed by ~~use of~~ a coating technique or ~~a~~ CVD ~~technique~~.

Replace the paragraph beginning at page 10, line 32 with:

Then, a resist film (not shown) is formed on the third insulating film 7, and a resist pattern 8 having a desired wiring pattern is formed using a photolithographic technique, as shown in Fig. ~~1D~~ 1(d). After that, the third insulating film 7, the second insulating film 4, and the first insulating film 3 are etched using the resist pattern 8 as a mask, forming a wiring groove 9, as shown in Fig. ~~1E~~ 1(e).

Replace the paragraph beginning at page 11, line 7 with:

Then, a tantalum film 10 is formed on the third insulating film 7 and the wiring groove 9 by ~~a~~ sputtering ~~technique~~. It should be noted that a tantalum nitride film may be

used instead of the tantalum film 10. Then, a copper film 11 is formed on the tantalum film 10 by ~~a~~ sputtering ~~technique~~. After that, a copper film 12 is formed by ~~a~~ plating ~~technique,~~ such that it fills the wiring groove 9, as shown in Fig. ~~1F~~ 1(f). Lastly, portions of the copper films 12 and 11 and tantalum film 10, other than those on the wiring groove 9, are removed through chemical mechanical polishing, producing the structure shown in Fig. ~~1G~~ 1(g).